

AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of claims:

1. (Currently Amended) A method for using a computer to assist a particular data storage machine in posting a message on a message list stored in a memory, said message list being accessible to a plurality of processors, said method comprising:

receiving, from one of the plurality of processors, a message to be posted on said message list, said message having an intended recipient selected from said plurality of processors having access to said message list, wherein said message list includes messages having different intended recipients;

selecting a new-message slot from said message list accessible to said plurality of processors;

placing said message to be posted on said message list in said new-message slot; and

modifying said new-message slot to specify said intended recipient of said message, said intended recipient being selected from said plurality of processors having access to said message list

inserting said new-message slot into said message list, said message list including a first existing-message slot having a pointer to a second existing-message slot,

wherein inserting said new-message slot into said message list

comprises setting a first pointer on said new-message slot to point to said first existing-message slot and a second pointer on said new-message slot to point to said second existing message-slot.

2. (Cancelled)

3. (Cancelled)

4. (Currently Amended) The method of claim **3**, wherein inserting said new-message slot into said message list further comprises setting said pointer associated with said first existing-message slot to point to said new-message slot.

5. (Currently Amended) The method of claim **1**, wherein modifying said new-message slot to specify an intended recipient comprises modifying a destination mask associated with said new-message slot, said destination mask including information specifying all intended recipients of said message.

6. (Currently Amended) The method of claim **5**, wherein modifying said destination mask comprises:

selecting, from a plurality of constituent data-elements of said destination mask, each of said constituent data-elements corresponding to one of said processors from said plurality of processors, a selected data-element corresponding to a selected processor; and

modifying said selected data-element to indicate that said selected processor is an intended recipient.

7. (Currently Amended) The method of claim **1**, further comprising updating a message directory to indicate the presence of said new-message slot in said message list, said message directory being accessible to said plurality of processors.

8. (Currently Amended) The method of claim **7**, wherein updating said message directory comprises updating an attention mask containing information indicative of which processors from said plurality of processors are intended recipients of messages contained in said message list.

9. (Currently Amended) The method of claim **8**, wherein updating said attention mask comprises:

selecting from a plurality of constituent data-elements of said attention mask, each of said constituent data-elements corresponding to one of said processors from said plurality of processors, a selected data-element corresponding to a selected processor; and

modifying said selected data-element to indicate existence of a new message for which said selected processor is an intended recipient.

10-33. (Cancelled)

34. (New) A method for using a computer to assist a particular data storage machine in posting a message on a message list stored in a memory, said message list being accessible to a plurality of processors, said method comprising:

receiving, from one of the plurality of processors, a message to be posted on said message list, said message having an intended recipient selected from said plurality of processors having access to said message list, wherein said message list includes messages having different intended recipients;

selecting a new-message slot from said message list accessible to said plurality of processors;

placing said message to be posted on said message list in said new-message slot; and

modifying said new-message slot to specify said intended recipient of said message, said intended recipient being selected from said plurality of processors having access to said message list,

wherein modifying said new-message slot to specify an intended recipient comprises modifying a destination mask associated with said new-message slot, said destination mask including information specifying all intended recipients of said message.

35. (New) The method of claim **34**, further comprising inserting said new-message slot into said message list, said message list including a first existing-message slot having a pointer to a second existing-message slot.

36. (New) The method of claim **35**, wherein inserting said new-message slot into said message list comprises setting a first pointer on said new-message slot to point to said first existing-message slot and a second pointer on said new-message slot to point to said second existing message-slot.

37. (New) The method of claim **36**, wherein inserting said new-message slot into said message list further comprises setting said pointer associated with said first existing-message slot to point to said new-message slot.

38. (New) The method of claim **34**, wherein modifying said destination mask comprises:

selecting, from a plurality of constituent data-elements of said destination mask, each of said constituent data-elements corresponding to one of said processors from said plurality of processors, a selected data-element corresponding to a selected processor; and

modifying said selected data-element to indicate that said selected processor is an intended recipient.

39. (New) The method of claim **34**, further comprising updating a message directory to indicate the presence of said new-message slot in said message list, said message directory being accessible to said plurality of processors.

40. (New) The method of claim **39**, wherein updating said message directory comprises updating an attention mask containing information indicative of which processors from said plurality of processors are intended recipients of messages contained in said message list.

41. (New) The method of claim **40**, wherein updating said attention mask comprises:

selecting from a plurality of constituent data-elements of said attention mask, each of said constituent data-elements corresponding to one of said processors from said plurality of

processors, a selected data-element corresponding to a selected processor; and

modifying said selected data-element to indicate existence of a new message for which said selected processor is an intended recipient.

42. (New) A method for using a computer to assist a particular data storage machine in posting a message on a message list stored in a memory, said message list being accessible to a plurality of processors, said method comprising:

receiving, from one of the plurality of processors, a message to be posted on said message list, said message having an intended recipient selected from said plurality of processors having access to said message list, wherein said message list includes messages having different intended recipients;

selecting a new-message slot from said message list accessible to said plurality of processors;

placing said message to be posted on said message list in said new-message slot;

modifying said new-message slot to specify said intended recipient of said message, said intended recipient being selected from said plurality of processors having access to said message list; and

updating a message directory to indicate the presence of said new-message slot in said message list, said message directory being accessible to said plurality of processors;

wherein updating said message directory comprises updating an attention mask containing information indicative of which processors from said plurality of processors are intended recipients of messages contained in said message list.

43. (New) The method of claim **42**, further comprising inserting said new-message slot into said message list, said message list including a first existing-message slot having a pointer to a second existing-message slot.

44. (New) The method of claim **43**, wherein inserting said new-message slot into said message list comprises setting a first pointer on said new-message slot to point to said first existing-message slot and a second pointer on said new-message slot to point to said second existing message-slot.

45. (New) The method of claim **44**, wherein inserting said new-message slot into said message list further comprises setting said pointer associated with said first existing-message slot to point to said new-message slot.

46. (New) The method of claim **42**, wherein modifying said new-message slot to specify an intended recipient comprises modifying a destination mask associated with said new-message slot, said destination mask including information specifying all intended recipients of said message.

47. (New) The method of claim **46**, wherein modifying said destination mask comprises:

selecting, from a plurality of constituent data-elements of said destination mask, each of said constituent data-elements corresponding to one of said processors from said plurality of processors, a selected data-element corresponding to a selected processor; and

modifying said selected data-element to indicate that said selected processor is an intended recipient.

48. (New) The method of claim **42**, wherein updating said attention mask comprises:

selecting from a plurality of constituent data-elements of said attention mask, each of said constituent data-elements corresponding to one of said processors from said plurality of processors, a selected data-element corresponding to a selected processor; and

modifying said selected data-element to indicate existence of a new message for which said selected processor is an intended recipient.

49. (New) A computer system for assisting a particular data storage system in posting a message on a message list stored in a memory, said message list being accessible to a plurality of processors, said system including

a memory having stored therein instructions for

receiving, from one of the plurality of processors, a message to be posted on said message list, said message having an intended recipient selected from said plurality of processors having access to said message list, wherein said message list includes messages having different intended recipients;

selecting a new-message slot from said message list accessible to said plurality of processors;

placing said message to be posted on said message list in said new-message slot; and

modifying said new-message slot to specify said intended recipient of said message, said intended recipient being selected from said plurality of processors having access to said message list

inserting said new-message slot into said message list, said message list including a first existing-message slot having a pointer to a second existing-message slot,

wherein inserting said new-message slot into said message list comprises setting a first pointer on said new-message slot to point to said first existing-message slot and a second pointer on said new-message slot to point to said second existing message-slot;

and a processor configured to execute said instructions stored in memory.

50. (New) A computer system for assisting a particular data storage system in posting a message on a message list stored in a memory, said message list being accessible to a plurality of processors, said method comprising:

a memory having stored therein instructions for

receiving, from one of the plurality of processors, a message to be posted on said message list, said message having an intended recipient selected from said plurality of processors having access to said message list, wherein said message list includes messages having different intended recipients;

selecting a new-message slot from said message list accessible to said plurality of processors;

placing said message to be posted on said message list in said new-message slot; and

modifying said new-message slot to specify said intended recipient of said message, said intended recipient being selected from said plurality of processors having access to said message list,

wherein modifying said new-message slot to specify an intended recipient comprises modifying a destination mask associated with said new-message slot, said destination mask including information specifying all intended recipients of said message; and

a processor configured to execute said instructions stored in memory.

51. (New) A computer system for assisting a particular data storage system in posting a message on a message list stored in a memory, said message list being accessible to a plurality of processors, said method comprising:

a memory having stored therein instructions for

receiving, from one of the plurality of processors, a message to be posted on said message list, said message having an intended recipient selected from said plurality of processors having access to said message list, wherein said message list includes messages having different intended recipients;

selecting a new-message slot from said message list accessible to said plurality of processors;

placing said message to be posted on said message list in said new-message slot;

modifying said new-message slot to specify said intended

recipient of said message, said intended recipient being selected from said plurality of processors having access to said message list; and

updating a message directory to indicate the presence of said new-message slot in said message list, said message directory being accessible to said plurality of processors;

wherein updating said message directory comprises updating an attention mask containing information indicative of which processors from said plurality of processors are intended recipients of messages contained in said message list; and

a processor configured to execute said instructions stored in memory.